Math 1303 - Math in the Liberal Arts

Quiz #6 - 2008.02.08

Solutions

Solve the following equations:

1. $4x - 2 = 0.01$

First we multiply by 100 and then solve for x.

$$\begin{aligned} 400x - 200 &= 1 \\ 400x &= 201 \\ x &= \frac{201}{400} \end{aligned}$$

2. $\frac{2(x-3)}{.01} = \frac{4x-.2}{5}$

Here we cross multiply first

$$\begin{aligned} 5 \cdot \frac{2(x-3)}{.01} &= \frac{4x-.2}{5} \cdot .01 \\ 10(x-3) &= .01(4x - 0.2) \\ 10x - 30 &= .04x - .002 \end{aligned}$$

Now we multiply out both sides by 100 gives

$$\begin{aligned} 10000x - 30000 &= 40x - 2 \\ 9960x &= 29998 \\ x &= \frac{29998}{9960} = \frac{14999}{4980} \end{aligned}$$